

o.k to ship
A.P. 15.08.24

Work Order ID 135876

Monday, August 24, 2015 9:19:59 AM

U/R

135876

2425 Sept

Page 1

Item ID: D119-646-043

Accept

N900040100

Setup Start ***NS1***

Revision ID: ~~H/R~~ ~~URF15-560~~

Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Stop ***NS2***

Start Date: 8/24/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/24/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MVS

Date: AUG 24 2015

Tooling:

Date:

Run Start ***NR1***

QC: 1

Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3905-041	D								
IIN-D119-646	C								

100

0.00

100

DC

Doc.Control -USB or Paperwork

Memo

0.00

Photocopy bluefile & type labels per PPP D119-646-043
CHG 004

N/A MVS

DEC 10 11 2015

DQA:

Date:

16/02/04

DART
AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed

Date:

16/02/04

Work Order update only

Work Order: <u>135876</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. <u>D119-646-043</u>		Rework ☒		Skid-tube ☒	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. <u>16-5580</u>		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: <u>15.12.03</u>		Step #: <u>110</u>		QTY Effective: <u>①</u>			MRB (QSI042) Approval <u>A.P.</u>		
Description Work Order Deviation				Disposition				15.11.04	
ACCEPTABLE TO OPEN FLAT HOLE TO Ø0.435 DIA. TOUCH UP ALODINE				ACCEPTABLE UPDATE DWG. PARTS ARE TOO TIGHT ADDITIONAL CLEARANCE REQUIRED				Completed By <u>D</u> 15-11-4	
								Lead hand / Supervisor Approval Verification DAS 9 9-89 DEC 11 2015	
								QC / QA Coordinator Approval DAS 9 9-89 DEC 03 2015	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☒	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☒				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Unit/Function ☒	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Work Order ID 135876

135876

Page 2

Monday, August 24, 2015 9:19:59 AM

Item ID: D119-646-043

Accept

N900040100

Setup Start *NS1*

Revision ID: U/R - URF15-560

Stop *NS2*

Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 8/24/2015 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00

110

Skidtubes
300 00 00
Skidtubes

Memo

0.00

1- Bend FWD end of tube using Bender 1 and bend prog D3905 FWD per dwg D3905

2- Cut FWD end of tube as per dwg D3905.

3- Cut AFT end of tube as per dwg D3905.

4- Buff out marks left from bending

5 -Install drill Jig DT9480 drill X-bolt spacer pilot holes using 3/16" drill first side only.

6- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.

7- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes usin DT9480

8- Drill FWD cap holes using DT8215.

DGC
5-8-31

15-9-2

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: BAM Date: 16/02/05Work Order update only ☐

Work Order: <u>135876</u> Part No. <u>D119-646-043</u> NCR No. <u>16-5572</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☒</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☒	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																		
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DS101-041 SPACER SHAPED TO FIT IN BEND REGION OF TUBE SHAPED TO FIT IN BEND REGION OF TUBE		ACCEPTABLE PER APPROVED DSI 9685 Rev. A.																																																																	
		Completed By <u>D, 15-11-26</u>																																																																	
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OTHER :																																																																			

Work Order ID 135876

Monday, August 24, 2015 9:19:59 AM

135876

Page 3

Item ID: D119-646-043
 Revision ID: U/R - URF15-560
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
 Start Date: 8/24/2015 Start Qty: 1.00
 Required Date: 8/24/2015 Req'd Qty: 1.00
 Reference:

Accept

N9000040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:
 Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Chemical Conversion Coat per QSI005 4.1	0.00							
120									
Hand Finish	Memo	0.00							
Hand Finishing									
130	QC7-Inspect Chemical Conversion Coat	0.00							
130									
QC	Memo	0.00							
Quality Control									
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.00							
Quality Control									

15-9-2

15-9-2

DAS
18
9-09

1 15-09-02

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 135876

Monday, August 24, 2015 9:19:59 AM

135876

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Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/24/2015 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/24/2015 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170

170

Skidtubes

Skidtubes

Memo

0.00

1-Bond web in place as per Dwg D3905 & QSI 015.

A/RSikaflex-291 132705Sikaflex expire date: 10-2-12Start: 15-8-2 Time: 115 PM

Finish: _____ Time: _____

***** (Adhere for 12 hours) *****

2--Bend AFT end of tube using CNC Bender 1 and bend prog. D3905 AFT as per dwg D3905. Install drop pins in crossbolt spacer holes to maintain web position.

3- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.

4- Drill Tow ring hole using DT9494. Open to finished size.

5- Open FWD & AFT cap holes per dwg.

6-Open crossbolt spacer holes to finished size ***DO NOT OPEN SPOT DRILLED HOLES IN SECTION G***

7-Deburr crossbolt spacer holes as per Dwg D3905 and blow out chips from inside the tube

8- Deburr

9- Buff out marks left from bending.

DP 15-9-2

DP 15-9-3

DP 15-9-8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
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Work Order ID 135876***135876***

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Monday, August 24, 2015 9:19:59 AM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/24/2015 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/24/2015 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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10- Open holes of section G using DT9493 open to finished size.
*****VERIFY DIMENSIONS*****

11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.

Handwritten signature and date: 15-9-8

180

QC5- Inspect part completeness to step on W/O

0.00

*180.6"****180***

QC

Memo

0.00

Quality Control

**DAS
18
9-89**

Handwritten date: 15-09-08

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
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				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
☐ OTHER : _____					

Work Order ID 135876

135876

Page 6

Monday, August 24, 2015 9:19:59 AM

Item ID: D119-646-043 Accept *N900040100* Setup Start *NS1*
 Revision ID: U/R - URF15-560 Stop *NS2*
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
 Start Date: 8/24/2015 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 8/24/2015 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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190

100

Skidtubes

Skidtubes

Memo

NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD
 GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN
 PROCEED. FIXTURE DT10091.

1-Insert crossbolt spacers. Weld as per QSI004 and Dwg D3905. Remember to
 back drill each hole before welding the other side. Use aluminum rod
 A/RAluminum Rod *M13502/M132917*

2-Grind cross bolt welds flush as per Dwg D3905. Ensure no pin hole.

3-Counterbore 5/16" x 0.750" deep as per Dwg D3905.

4- Deburr & Scribe batch # on Aft end of tube.

BE150908

15-9-9

200

QC5- Inspect part completeness to step on W/O

0.00

200

QC

Quality Control

Memo

TEST FIT USING FIXTURE DT10091.

0.00

15-09-09

DAS

9

9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
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Misidentified ☐	Past Due ☐																																																																

Work Order ID 135876

135876

Page 7

Monday, August 24, 2015 9:19:59 AM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/24/2015 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/24/2015 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210	QC10- Inspect visual per QSI004- ground welds	0.00							
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210

QC
Quality Control

Memo

0.00

①

15-08-09

DAS
9
9-89

220	Pressure Wash per QSI005 4.3	0.00							
-----	------------------------------	------	--	--	--	--	--	--	--

220

HandFinish
Hand Finishing

Memo

0.00

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 15-9-10

230		0.00							
-----	--	------	--	--	--	--	--	--	--

230

SprayPaint
Spray Painting

Memo

0.00

PRIME AS PER DWG AND QSI 005 4.2
BATCH: 130992

PAINT WHITE AS PER DWG AND QSI 005 4.2
BATCH: 132896

1

DAS
41
9-89

15-9-22

MASK SADDLE AREA PER
ATTACHED DWG. ALODINE
ONLY A.P. 15.08.24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: ~~BAH~~ Date: 16/07/03Work Order update only ☐

Work Order: <u>135876</u> Part No. <u>D119-646-043</u> NCR No. <u>16-5571</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☒</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>			Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☒	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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Date: <u>15.08.24</u>	Step #: <u>230</u>	QTY Effective: <u>2</u>	MRB (QSI042) Approval <u>A.P.</u> <u>15.08.24</u>																																																																
Description Work Order Deviation		Disposition																																																																	
NO PRIME OR PAINT ON SADDLE AREA PER ATTACHED DWG.		ACCEPTABLE PER ATTACHED DWG																																																																	
				Completed By <u>68-6</u> <u>15-12-3</u> <u>SVS</u>																																																															
				Lead hand / Supervisor Approval Verification DAS 9 9-89 <u>DEC 03 2015</u>																																																															
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OTHER: _____																																																																			

Monday, August 24, 2015 9:19:59 AM

Item ID:	D119-646-043	Accept
Revision ID:	U/R - URF15-560	
Item Name:	Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH	

Start Date:	8/24/2015	Start Qty:	1.00	*1*
Required Date:	8/24/2015	Req'd Qty:	1.00	*1*

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:
Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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240 QC14- Inspect Spray Paint

0.00

240

OC

Memo

0.00

Quality Control

DAS

9

9-89

P.T.O.

250

0.00

250

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per Dwg D3905.

260

QC5- Inspect part completeness to step on W/O

0.00

260

QC

Memo

0.00

Quality Control

164 of all is 11

16 15-11-17. DAS 34 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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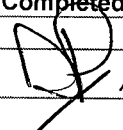
Non-Conformance Report

Reviewed
DQA:
Date:

Printed on: Tuesday, September 29, 2015

Details			
Raised Date 9/29/2015	Status Open	Owner Forbes, Nigel	Number NCR15-5366
Target Date 10/13/2015	Standard		Severity MAJOR
Process Employee finding		Audit	
Raised By Person Duval, Patrick	Raised Against (Department or Supplier) Manufacturing		Fault Category General
Details during final assembly of D119-646-043 it was notice by employee that wearplate holes where not drill. More issue was found after: drawing number on first page of work order is incorrect, route those not call for drilling wearplate holes, boom those not call for wearplate D3847-043/045/049. note 12 on drawing call for wrong DT#			
Keywords		Product D119-646-043	
Document		Root Cause	
Closed By	Closed Date	Resolution	

Corrective Action			
Target Date	Owner Downing, Eric M	Closed Date	Closed By
Details			

Actions			
Number	Owner	Target Date	Completed Date
Details		Response	
5	Paquette, Daniel	10/7/2015	 15-9-30
use drill jig to locate and drill wearplate holes as per drawing D3905 rev D. touch up holes with alodine			
6	Monterroza, William	10/6/2015	
update note 12 on drawing D3905 for correct DT#			
7	Duval, David	10/6/2015	
add step for drilling wearplate hole using correct DT tool			

8	Duval, David	10/6/2015	
add D3847-043/045/049 on bom			

Verification & Review			
Target Date	Owner	Closed Date	Closed By
Details			

Actions			
Number	Owner	Target Date	Completed Date
Details		Response	

Work Order ID 135876

Monday, August 24, 2015 9:19:59 AM

135876

Page 9

Item ID: D119-646-043 Accept
Revision ID: U/R - URF15-560
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

N900040100

Setup Start ***NS1***

Stop ***NS2***

Start Date: 8/24/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 8/24/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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270

270

HandFinish

Hand Finishing

Memo

1-Install wearpads, gaskets and wearplates as per Dwg D3905. Put sikaflex in

insert before installing bolts and washers

A/RSikaflex-240/-291 M133427

Sikaflex expire date: 16162

2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: M133429 RTU 598 M13345 16165

3 -Inspect for foreign objects as per QSI 024

4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/RSikaflex-240/-291 M133428

Sikaflex expire date: 16162

5- Install D5101-041 as per dwg by using DT10117

280

QC5- Inspect part completeness to step on W/O 0.00

280

QC

Quality Control

Memo

0.00

- All wear parts are torque except last one

DAS
38
9-89

POSITIVE RECALL

EFFECTIVE 15-11-26 AUTH 68-6

RELEASED DAS DATE 15-11-30

9-89

DAS
38
9-89

15-11-30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
0				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐	

Monday, August 24, 2015 9:19:59 AM

135876

Page 10

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*

Stop ***NR2***

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 135876***135876***

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Monday, August 24, 2015 9:19:59 AM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/24/2015 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/24/2015 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

300

QC21- Final Inspection - Work Order Release

0.00

300

QC

Memo

0.00

Quality Control

MLS

DEC 01 2015

MF
15.11.30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Monday, August 24, 2015 9:20:04 AM

Page 1

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC IPP revB
10.02.22 per PAR 09-043 EC verified by:DD IPP REVC 12.11.05
(DEOD3905-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 13.03.20 per
chg003 ECN13-534 DD verf:JLM
IPP REV:E 15.01.19 AS PER ECN-14-628 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN4C46A		Purchased	No			270	Each	345.0000	3	3			
AN4C46A									**				
Bolt													

Location	Loc Qty	Loc Code
FG	8	
123642	2	
m132169	6	
ST312A	310	
m129431	100	
m131856	70	
m132381	70	
m132522	70	
ST341	27	
131651	27	

D5101-041		Manufactured	No			270	Each	39.0000	3	3			
D5101-041									**				
Crossbolt Spacer Assembly													

Location	Loc Qty	Loc Code
ST149	29	
128587	29	
ST155a	10	
130727	10	

13139261 Ck
13/14/20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Monday, August 24, 2015 9:20:04 AM

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

D5101-3 Manufactured No 270 Each 64.0000 6 6

Start Qty: 1.00

Required Qty: 1.00

D5101-3

Insert

**

all 13/11/17

Location

Loc Qty

Loc Code

ST147

64

B135947

XL

127964

64

D5101-5 Manufactured No 270 Each 64.0000 6 6

D5101-5

Insert

**

all 15/11/17

Location

Loc Qty

Loc Code

ST147

64

B135948

XL

127965

64

MS21043-4 Purchased No 270 Each 710.0000 3

MS21043-4

Nut

**

(3)

m133134 Sp

Location

Loc Qty

Loc Code

FG

40

104603

40

GA

193

m128798

193

ST273A

300

m132803

300

ST304

177

m128818

39

m131697

9

m132382

4

m132536

125

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Monday, August 24, 2015 9:20:04 AM

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

D2500-1-190

Manufactured No

110

Each

8.0000

Start Qty: 1.00

1 1

Required Qty: 1.00

D2500-1-190

Ext'n -1' Beam Tube 4"

**

Location

Loc Qty

Loc Code

LG002

8

120085

8

Each

123.0000

8
2

DBL 15-8-31

**

BE15-08-08

D2579

Manufactured No

D2579

Crossbolt Spacer

Location

Loc Qty

Loc Code

LG001

123

113785

24

23997

99

Each

5.0000

2

2

**

all 15/11/17

D2855-3

Manufactured No

D2855-3

Cap

Location

Loc Qty

Loc Code

FP001

5

127596

5

Each

45.0000

16

16

**

all 15/11/17

D3492-5

Manufactured No

D3492-5

Plug

Location

Loc Qty

Loc Code

FP

2

133396

2

FP001

43

120153

15

133909

28

B136396

x16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐			

Picklist Print

Monday, August 24, 2015 9:20:04 AM

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

NAS1611-005

Purchased

No

270

Each

Start Qty: 1.00
178.0000 16 16

Required Qty: 1.00

NAS1611-005

O-RING

**

ll 12/11/17

Location

Loc Qty

Loc Code

FP001

178

m129198

75

m129384

103

X16

D3672-1

Manufactured

No

270

Each

902.0000 2 2

**

ll 12/11/17

D3672-1

Washer, Phenolic

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

106

113581

106

ST049

783

112218

72

127322

211

134785

500

ST055

3

120116

3

✓2

D3681-1

Manufactured

No

190

Each

15.0000 8 8

**

*8E150908
8135571 *8*

D3681-1

Spacer

Location

Loc Qty

Loc Code

LG001

15

132711

1

133987

11

134948

3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Page 5

Monday, August 24, 2015 9:20:05 AM

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

D3847-1 Manufactured No

270 Each

6.0000

Start Qty: 1.00
8 8

Required Qty: 1.00

D3847-1

Wearpad

**

del 12/14/17

Location

Loc Qty

Loc Code

FP001

6

B137703

XB

133462

6

D3847-11 Manufactured No

270 Each

8.0000

1

1

D3847-11

Wearpad

**

del 12/14/19

Location

Loc Qty

Loc Code

FP001

8

B138418

XC

112558

8

D3885-3 Manufactured No

170 Each

2.0000

1

1

D3885-3

Standard Web

**

15-9-2

Location

Loc Qty

Loc Code

LG002

2

1

99134

2

D3903-1 Manufactured No

190 Each

41.0000

12

12

D3903-1

Spacer

**

B615-02-08

Location

Loc Qty

Loc Code

LG001

41

124312

3

135316

38

12

+ D3847-043 / B136770 (1x) }
+ D3847-045 / B136771 (1x) }
+ D3847-049 / B136773 (1x) }

del 12/14/17

NAS1149D0416J / M131511(x3)

Monday, August 24, 2015 9:20:05 AM

Shop Packet Print

Page 5

A.P. 15.08.24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Monday, August 24, 2015 9:20:05 AM

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

D3672-3

Manufactured No

Each

522.0000

Start Qty: 1.00

12

Required Qty: 1.00

D3672-3

Washer, Phenolic

**

N/A

Location

Loc Qty

Loc Code

FG	71	
133083	71	
FP001	263	
132639	263	
ST049	173	
134449	173	
ST055	15	
129916	15	

D3683-3

Purchased No

250

Each

231.0000

12

12

D3683-3

Insert

**

N/A

Location

Loc Qty

Loc Code

FP001	34	
47805	34	
ST051	197	
47805	197	

ALS4-1032-130

AELS4-1032-130 Purchased No

250

Each

1,335.000

42

42

ALS4-1032-130

Rivnut

**

15/11/17

Location

Loc Qty

Loc Code

st549	1335	
M132317	135	
M132954	1200	

11133077

242

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Page 7

Monday, August 24, 2015 9:20:05 AM

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

AN3C5A

Purchased

No

270

Each

861.0000

Start Qty: 1.00
44

Required Qty: 1.00

44

AN3C5A

Bolt

all 8/11/17

Location

Loc Qty

Loc Code

FG

5

11 133 183

x18

122800

5

11 133 234

x76

ST338a

856

M131803

8

M132640

348

M132930

500

Each

4,889.000

44

NAS1149C0332R

Purchased

No

NAS1149C0332R

WASHER

all 8/11/17

Location

Loc Qty

Loc Code

FP001

2140

11 133 284

x44

m130325

2140

GA

221

m131618

221

ST260a

2000

m132930

2000

ST271

528

m129390

72

m132262

456

Each

241.0000

12

NAS1149C0463R

Purchased

No

NAS1149C0463R

Washer

N/A

N/A @ 8-11-17

Location

Loc Qty

Loc Code

FP001

77

m127306

77

ST271

164

m128401

164

Monday, August 24, 2015 9:20:06 AM

Shop Packet Print

Page 7

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

Picklist Print

Page 8

Monday, August 24, 2015 9:20:06 AM

Work Order ID: 135876

135876

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/24/2015

Required Date: 8/24/2015

MS27039C4-08

Purchased

No

270

Each

264.0000

Start Qty: 1.00

12

12

Required Qty: 1.00

MS27039C4-08

SCREW

**

N/A

N/A
AS-11-17

Location

Loc Qty

Loc Code

FP001

20

m126319

20

ST282

244

m126319

144

m128429

100

MS24694-C52

Purchased

No

Each

71.0000

2

MS24694-C52

SCREW

**

all 15/11/17

Location

Loc Qty

Loc Code

FP001

25

m127059

25

ST287

46

124308

46

VZ

DQA: _____ Date: _____

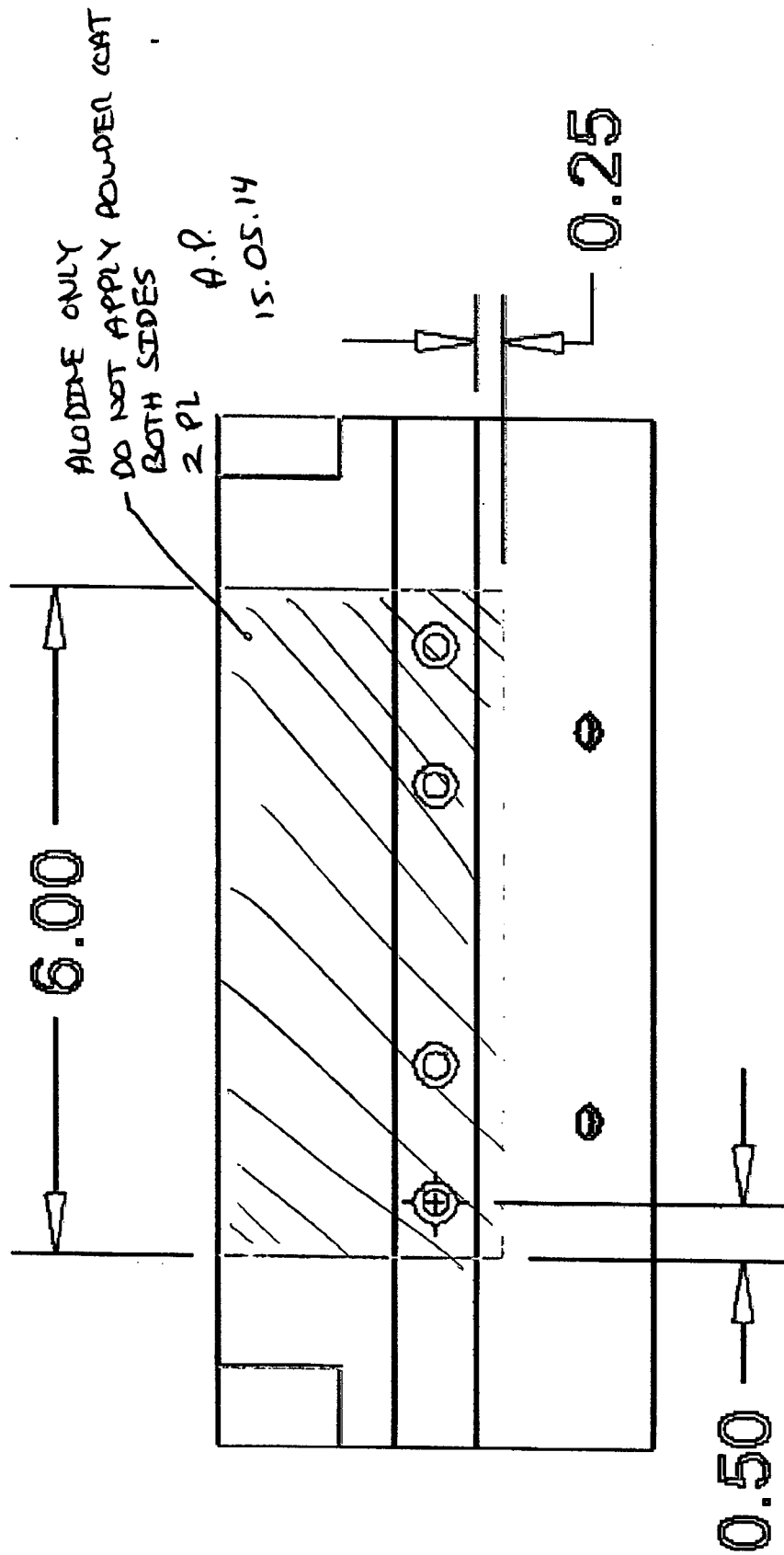


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

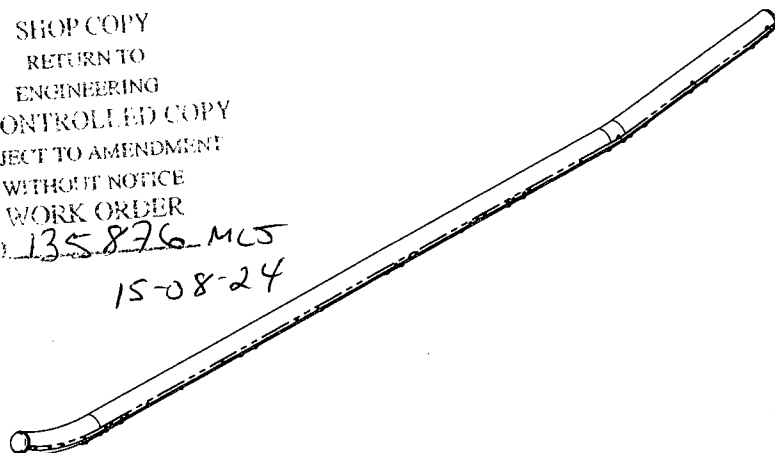


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RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER

NO. 135876 MJS

15-08-24



D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-3 FLOAT WEB PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2 BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3905-041 = 35.4 lbs
D3905-043 = 42.8 lbs
D3905-045 = 48.0 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8932 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3905-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3905-041	FLOAT SKIDTUBE ASSY WITH WEARPAD
2		X		D3905-043	FLOAT SKIDTUBE ASSY WITH WEARPLATE
3			X	D3905-045	FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12			16	D3411-3	WASHER
13	16	16		D3492-045	PLUG ASSY
14	2	2	2	D3672-1	PHENOLIC WASHER
15	8	8	8	D3681-1	SPACER
16	8	8	1	D3847-1	WEARPAD
17	1	1	1	D3847-11	WEARPAD
18		1		D3847-043	FWD WEARPLATE ASSY
19		1		D3847-045	CENTER WEARPLATE ASSY
20		1		D3847-049	AFT WEARPLATE ASSY
21			1	D3849-045	AFT WEARPLATE ASSY
22			1	D3849-047	FWD WEARPLATE ASSY
23	1	1	1	D3885-3	FLOAT WEB
24	12	12	12	D3903-1	SPACER
25			16	D3904-1	WASHER
26	1	1		D3905-11	FLOAT SKIDTUBE
27			1	D3905-13	FLOAT SKIDTUBE
28	6	6	6	D5101-3	INSERT
29	6	6	6	D5101-5	INSERT
30	3	3	3	D5101-041	CROSSBOLT SPACER ASSY
41	42	42	10	ALS4-1032-130	INSERT
42	44	44	12	AN3C5A	BOLT
43			4	AN3C46A	BOLT
44			4	AN3C50A	BOLT
45	3	3	3	AN4C46A	BOLT
46	44	44	8	NAS1149C0332R	WASHER (OR AN960C10L)
47	12	12	12	NAS1149C0463R	WASHER (OR AN960C416)
48	6	6	6	NAS1149D0416J	WASHER
49			8	MS21043-3	NUT
50	3	3	3	MS21043-4	NUT
51	2	2	2	MS24694-C52	SCREW

UNDER REVIEW

15.04.30 URF15-560 AP

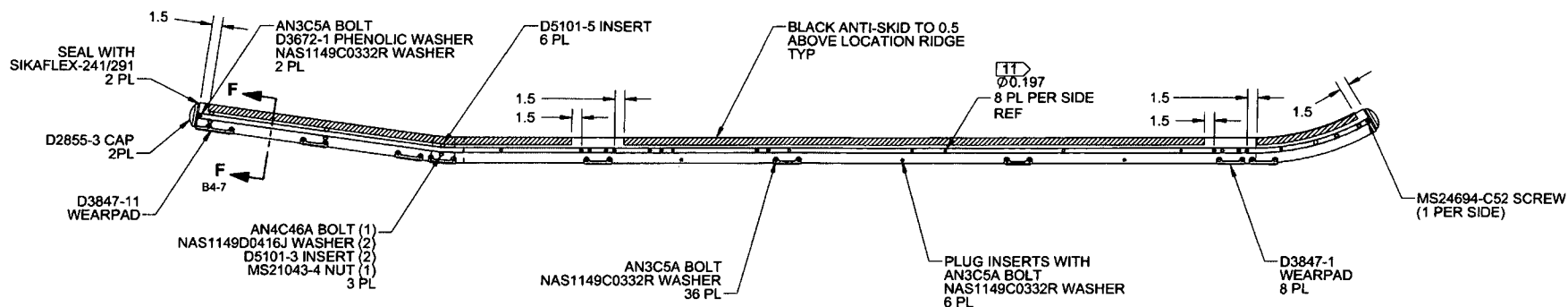
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2014 NOV 24

ECN 14-628

D	REVISED DIMENSIONS AND PROVIDED TOLERANCE TO SKIDTUBE OVERALL LENGTH PAGE 5-6 REVISED NOTE 2 AND NOTE 7 PAGE 1 (ZN B8, ZN A8-1) REVISED -041/-043/-045 DRAWING VIEWS, REVISED SECTION VIEW F-F (ZN B4-7), REVISED BOM REF. PART3-299 AND PART13-272	AK	14.08.08
C	(SHT 1 P/L, ZN C2-2, C2-3, C2-4) ITEM 13, QTY 2 WAS 4, ITEM 42 AND 45, QTY 44 WAS 46, ADD ITEM 49, MS24694-C52 WAS AN3C5A, D3672-1 AND NAS1149C0332R (ZN C7-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.204 THRU, (ZN A4-5, A4-6) ADD RELIEF INSTRUCTION, ADD ITEM 10, CROSS BOLT SPACER (ZN D4-1, C8-7, D8-7)	DB	13.02.21
B	REVISED PART LIST, ALS4-1032-130 WAS AELS-1032-130 (ZN A6-5, A5-6, C5-7, C3-7, A5-7); ADD DT8932 (ZN A6-1); D2855-3 WAS D2579 (ZN C8-2, C1-2, C8-3, C1-3, C8-4, C1-4); AN3C5A WAS AN3C4A (ZN C7-2, C1-2, C7-3, C1-3, C7-4, C1-4); D3849-047 WAS D3849-041 (ZN B3-4); ADD D3411-3 (ZN B3-4); ADD AN3C50A (ZN B3-4); Ø0.313 WAS Ø0.328 (B2-5, B2-6, C2-7, A8-7 & D7-8), REVISED NOTE 4 (ZN A8-7)	RF	09.06.30
D	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	ML	DART AEROSPACE USA, INC.	
DRAWN	RF	KENT, WA	
CHECKED	VS	DRAWING NO.	REV. D
MFG. APPR.	DD	D3905	SHEET 1 OF 8
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	
DATE	14.08.08	NTS	

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D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3905-11 SKIDTUBE)

UNDER REVIEW

15.04.30 URF15-560 AP

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MFG. APPR.	DD	D3905	SHEET 2 OF 8
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DE APPR.	D9	A119 FLOAT SKIDTUBE ASSY	NTS
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SEAL WITH
SIKAFLEX-241/291
2 PL

D2855-3 CAP
2 PL

D3847-11
WEARPAD

AN3C5A BOLT
NAS1149C0332R WASHER
10 PL

D3847-1
WEARPAD

AN4C46A BOLT (1)
NAS1149D0416J WASHER (2)
D5101-3 INSERT (2)
MS21043-4 NUT (1)
3 PL

AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

D5101-5 INSERT
3 PL

1.5
1.5

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

D3849-045
AFT TRAINING WEARPLATE ASSY

AN3C46A BOLT
D3904-1 WASHER, 2 PL
MS21043-3 NUT
4 PL

AN3C50A BOLT
D3904-1 WASHER, 2 PL
D3411-3 WASHER, 4 PL
MS21043-3 NUT
4 PL

D3849-047
FWD TRAINING WEARPLATE ASSY

MS24694-C52 SCREW
1 PER SIDE

D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3905-13 SKIDTUBE)

UNDER REVIEW

15.04.30 URF15-560 AP

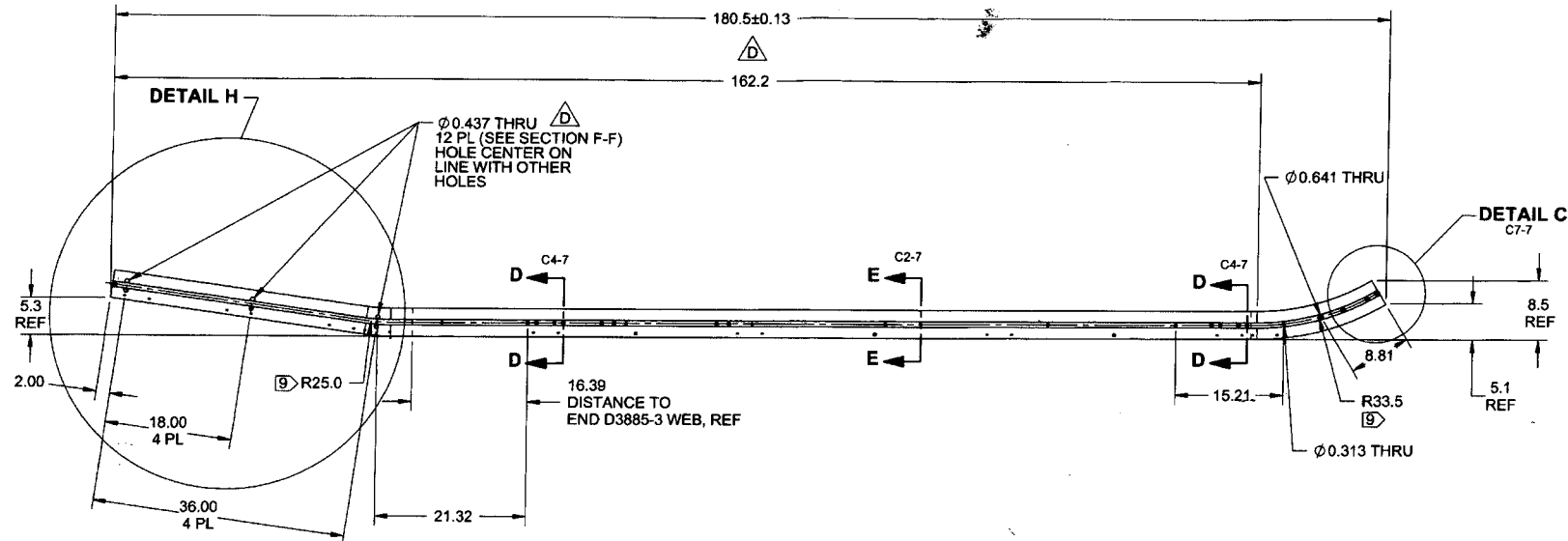
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MFG. APPR.	DD	D3905	SHEET 4 OF 8
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8 7 6 5 4 3 2 1



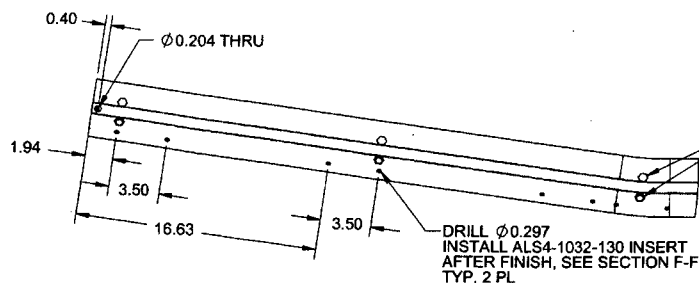
D3905-11 FLOAT SKIDTUBE
(MAKE FROM D3905-1 TUBE)

UNDER REVIEW

15.04.30 URF15-560 AP

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2014 NOV 24



DETAIL H
SCALE 2X

RELIEVE RIDGE FLUSH WITH SKIDTUBE
FOR INSERT CLEARANCE
MAX 0.060 INTO THE RIDGE

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DRAWN	RF	KENT, WA	
CHECKED	VS	DRAWING NO.	REV. D
MFG. APPR.	DD	D3905	SHEET 5 OF 8
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DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

DETAIL G

5.3
REF

2.00

36.00
4 PL

18.00
4 PL

R25.0

21.32

16.39
DISTANCE TO
END D3885-3 WEB, REF

180.5±0.13

162.2

Ø0.437 THRU
12 PL (SEE SECTION F-F)
HOLE CENTER ON
LINE WITH OTHER
HOLES

ACCEPTABLE TO OPEN
HOLES TO Ø0.445
0.465
A.P.
15.10.06
15.11.04

C4-7

D

D

D

C2-7

E

E

D

D

D

15.21

Ø0.641 THRU

C7-7
DETAIL C

8.4
REF

8.81

5.1
REF

R33.5

Ø0.313 THRU

15-10-13

0.40
Ø0.204 THRU

1.94

3.50

3.50

16.63

D3905-13 FLOAT SKIDTUBE
(MAKE FROM D3905-1 TUBE)

RELIEVE RIDGE FLUSH WITH SKIDTUBE
FOR INSERT CLEARANCE
MAX 0.060 INTO THE RIDGE

DRILL Ø0.297
INSTALL ALS4-1032-130 INSERT
AFTER FINISH, SEE SECTION F-F
TYP, 2 PL

DETAIL G
SCALE 2X

UNDER REVIEW

15.04.30 URF15-560 AP

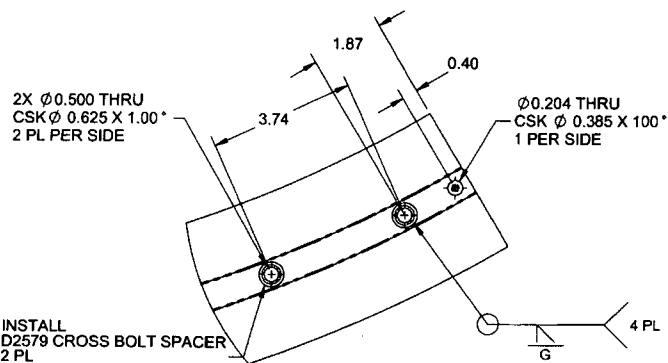
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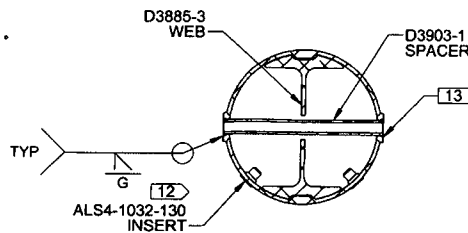
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DESIGN	ML	DART AEROSPACE USA, INC.	
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CHECKED	VS	DRAWING NO.	REV. D
MFG. APPR.	DD	D3905	SHEET 6 OF 8
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DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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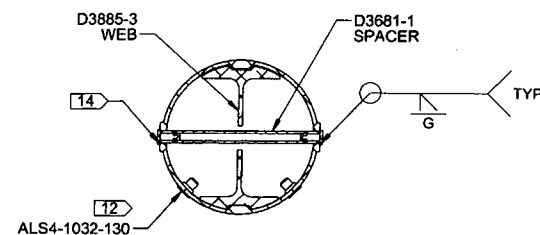
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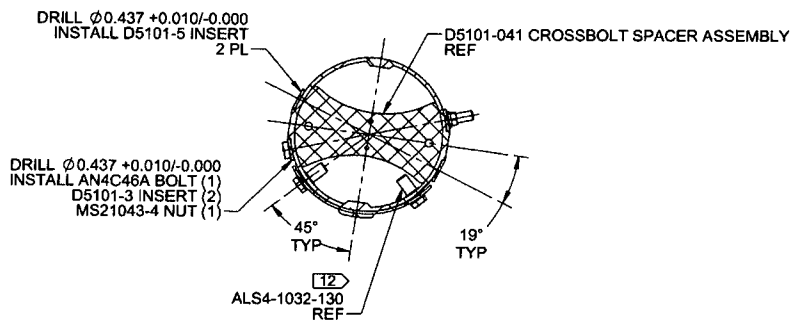
DETAIL C
SCALE 4X
C1-5
C1-6



SECTION D-D
SCALE 4X
C5-5
C2-5
C5-6
C2-6
(FOR 12 x Ø0.375 HOLES
PER SKIDTUBE)



SECTION E-E
SCALE 4X
C4-5
C4-6
(FOR 8 x Ø0.313 HOLES
PER SKIDTUBE)



SECTION F-F
SCALE 4X
C7-2
C7-3
C7-4

NOTES:

- 13) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
i) CHAMFER HOLES Ø0.475 x 45° (BOTH SIDES)
ii) INSERT D3903-1 SPACER
iii) WELD INTO PLACE AND GRIND FLUSH
iv) C'BORE TO 0.313 x 0.75 DEEP
v) DEBURR HOLES
- 14) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:
vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
vii) INSERT D3681-1 SPACER
viii) WELD INTO PLACE AND GRIND FLUSH
ix) DEBURR HOLES

UNDER REVIEW

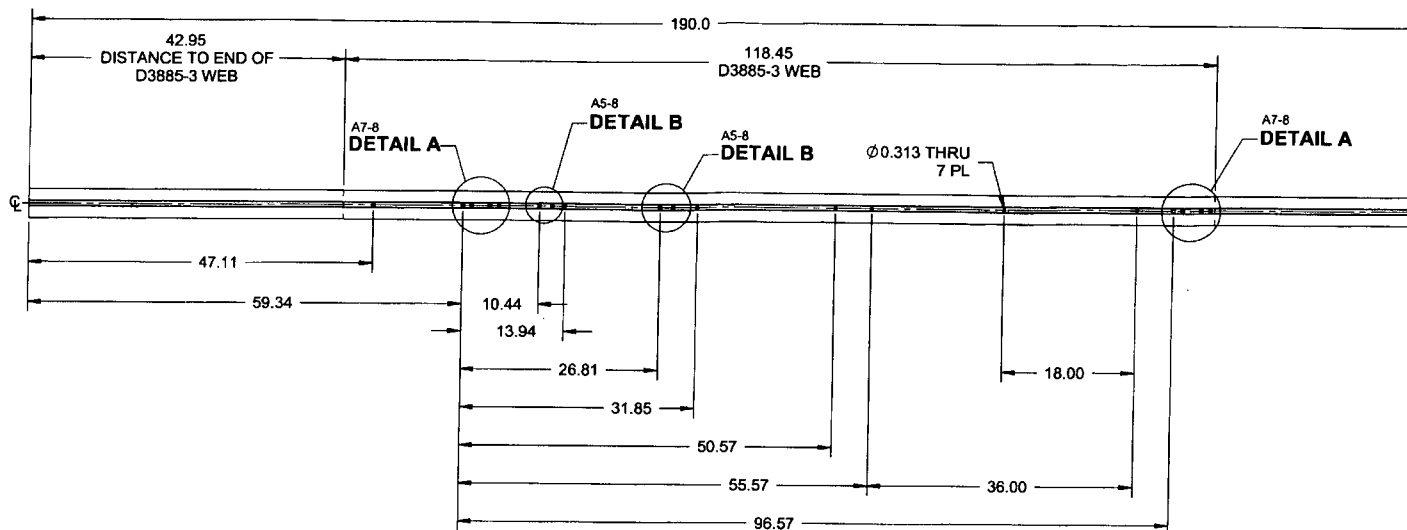
15.04.30 URF15-560 AP

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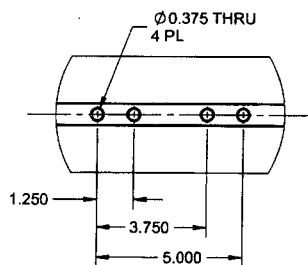
2014 NOV 24 up

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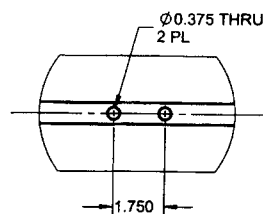
DESIGN	ML	DART AEROSPACE USA, INC.	
DRAWN	RF	KENT, WA	
CHECKED	VS	DRAWING NO.	REV. D
MFG. APPR.	DD	D3905	SHEET 7 OF 8
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D3905-1 TUBE
(MAKE FROM D2500-1-190 EXTRUSION)



DETAIL A
SCALE 4X
D6-8
D2-8



DETAIL B
SCALE 4X
D5-8
D4-8

UNDER REVIEW

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